Phytopathology

An International Journal

Official Organ of

THE AMERICAN PHYTOPATHOLOGICAL SOCIETY

VOLUME 73

JANUARY–DECEMBER 1983

Editor-in-Chief
K. J. LEONARD

Senior Editors
R. H. LAWSON
J. E. MITCHELL
G. E. SHANER
R. T. SHERWOOD

Associate Editors

P. B. ADAMS
W. J. BLOOMBERG
M. R. BONDE
E. BROWN
E. L. CIVEROLO
C. CLARK
J. A. DODDS
R. L. DODMAN
L. D. DUNKLE
L. V. EDGINGTON
W. C. FULTON
C. C. GILL
D. GONSALVES
J. M. HALLOIN
J. H. HART
M. C. HEATH
J. P. HELGESON
H. C. HOCH
H. W. ISRAEL
N. KEEN
A. KERR
L. R. KRUSBERG
E. G. KUHLMAN
L. C. LANE
S. M. LIM
S. E. LINDOW
D. R. MacKENZIE
D. J. MITCHELL
G. W. PETERSON
R. G. PRATT
C. P. ROMAINE
E. G. RUPPEL
N. W. SCHAAD
G. S. SIDHU
G. D. STATLER
J. TUITE
N. VAN ALFEN
C. P. VANCE
T. C. WEIDENSAUL
T. D. WYLLIE
E. L. ZEHR

Publisher and Business Manager
R. J. TARLETON

Director of Publications and Communications
S. C. NELSON

Senior Technical Editor
V. BAKER

Technical Editor
R. J. MINTEER

CONTENTS OF VOLUME 73, 1983

No. 1—January

1-3 **Acknowledgment of Reviewers**

4-6 **Author's Guide for Manuscript Preparation**

7-24 **Seventy-Fourth Annual Report of the American Phytopathological Society**

25-30 **Awards and Honors Program—74th Annual Meeting**

OBITUARY

31 **Kenneth Gardner Parker, 1906-1981** ..... W. F. Mai, S. V. Beer, and L. J. Tyler

32 **David Gottlieb, 1911-1982** ..... P. D. Shaw and R. E. Ford

33 **Clatus Martin Nagel, 1906-1982** ..... G. Semeniuk

34 **Keh Chi Ling, 1924-1982** ..... S. H. Ou

35 **Albert Joyce Riker, 1894-1982** ..... J. E. Kuntz, J. G. Berbee, A. C. Hildebrandt, T. T. Koslowski, and R. F. Patton

ETIOLOGY

67-70 **Internal Mold Caused in Sweet Pepper by *Alternaria alternata*: Fungal Ingress** ..... A. Halfon-Meiri and I. Rylski

81-85 **Comparison of Potato Yellow Dwarf Virus Serotypes** ..... B. W. Falk and L. G. Weathers

CYTOLOGY AND HISTOLOGY

39-43 **Scanning Electron Microscopy of Infection Sites and Lesion Development on Tomato Fruit Infected with *Pseudomonas syringae* pv. *tomato*** ..... S. Getz, D. W. Fulbright, and C. T. Stephens

70-81 **Ultrastructural Changes Induced by *Scutellonema brachyurum* in Potato Roots** ..... A. C. Schuerger and M. A. McClure

DISEASE DETECTION AND LOSSES

104-108 **An Assessment of Potato Losses Caused by Oxidant Air Pollution in New Jersey** ..... B. B. Clarke, M. R. Henninger, and E. Brennan

RESISTANCE

55-59 **Histology of the Relation Between Minor and Major Genes for Resistance of Barley to Leaf Rust** ..... R. E. Niks and H. J. Kuiper

60-64 **Comparative Histology of Partial Resistance and the Nonhost Reaction to Leaf Rust Pathogens in Barley and Wheat Seedlings** ..... R. E. Niks

64-66 **Haustorium Formation by *Puccinia hordei* in Leaves of Hypersensitive, Partially Resistant, and Nonhost Plant Genotypes** ..... R. E. Niks

108-110 **Variation in Virulence of *Botryodiplodia hypodermia* to *Ulmus pumila*** ..... J. M. Krupinsky

111-115 **Further Studies of an Inhibitor of Virus Replication from Tobacco Mosaic Virus-Infected Protoplasts of a Local Lesion-Responding Tobacco Cultivar** .. A. Gera and G. Loebenstein

ECOLOGY AND EPIDEMIOLOGY

36-38 **Influence of Development Stage on Susceptibility of Tomato Fruit to *Pseudomonas syringae* pv. *tomato*** ..... S. Getz, C. T. Stephens, and D. W. Fulbright

51-54 **Effect of Temperature and Relative Humidity on the Latent Period of *Venturia inaequalis* in Apple Leaves** ..... J. R. Tomerlin and A. L. Jones

89-95 **A Model of Verticillium Wilt in Relation to Cotton Growth and Development** ..... A. P. Gutierrez, J. E. DeVay, G. S. Pullman, and G. E. Friebertshauser

96-103 **Application of Survival Ratio for Monocyclic Process of *Hemileia vastatrix* in Predicting Coffee Rust Infection Rates** ..... A. C. Kushalappa, M. Akutsu, and A. Ludwig

115-118 **Growth of *Verticillium dahliae* on Sap from Five Maple Species** ..... F. J. Regulski, Jr., and J. L. Peterson

DISEASE CONTROL AND PEST MANAGEMENT

44-47 **Mycelial Growth, Peach Fruit-Rotting Capability, and Sporulation of Strains of *Monilinia fructicola* Resistant to Dichloran, Iprodione, Procymidone, and Vinclozolin** ..... D. F. Ritchie

PHYSIOLOGY AND BIOCHEMISTRY

85-88 **Parasitism of *Trichoderma* spp. on *Rhizoctonia solani* and *Sclerotium rolfsii*—Scanning Electron Microscopy and Fluorescence Microscopy** ..... Y. Elad, I. Chet, P. Boyle, and Y. Henis

SPECIAL TOPICS

47-50 **Relationships Among Some Ilarviruses: Proposed Revision of Subgroup A** ..... I. Uyeda and G. I. Mink

119-126 **Abstracts of papers presented at the 1982 meeting of the Caribbean Division**

No. 2—February

LETTER TO THE EDITOR

127-128 **Responses of Plants to Viruses: Proposals for the Use of Terms** ..... J. I. Cooper and A. T. Jones

ETIOLOGY

129-134 **Morphological Differentiation of Host-Specialized Groups of *Phytophthora megasperma*** ..... E. M. Hansen and P. B. Hamm

195-198 **A Previously Undescribed Nepovirus Isolated from Potato in Peru** ..... R. A. C. Jones, C. E. Fribourg, and R. Koenig

204-207 **Edaphic Parameters Associated with Shore Juniper Decline** ..... D. R. Fravel, D. M. Benson, and R. I. Bruck

TECHNIQUES

173-177 **Illusions in Visual Assessment of Stagonospora Leaf Spot of Orchardgrass** .... R. T. Sherwood, C. C. Berg, M. R. Hoover, and K. E. Zeiders

185-189 **Quantitative Immunoelectrophoresis of Panicum Mosaic Virus and Strains of St. Augustine Decline** ..... P. H. Berger and R. W. Toler

190-194 **Improved Purification of Two Potato Carlaviruses** ..... S. M. Tavantzis

220-223 **Selective Isolation and Enumeration of *Laetisaria arvalis* from Soil** ..... G. C. Papavizas, B. B. Morris, and J. J Marois

234-240 **Growth and Zoospore Germination of *Phytophthora* spp. on P_{10} VP Agar with Hymexazol** ..... F. C. S. Tay, K. Nandapalan, and E. M. Davison

241-246 **Technique for Long-Term Preservation of Phytopathogenic Fungi in Liquid Nitrogen** ..... H. Dahmen, Th. Staub, and F. J. Schwinn

300-303 **A Test for Randomness of Infection by Soilborne Pathogens** ..... C. A. Gilligan

RESISTANCE

143-147 **Analysis of Symptoms on Spring and Winter Wheat Cultivars Inoculated with Different Isolates of *Septoria nodorum*** ..... A. L. Scharen and Z. Eyal

159-162 **A New Gene for Resistance to *Bremia lactucae*** ..... J. E. Yuen and J. W. Lorbeer

247-249 **Genetic Factors Conditioning Slow Rust in Era Wheat** ..... J. M. S. Martinez-Gonzalez, R. D. Wilcoxson, D. D. Stuthman, D. V. McVey, and R. H. Busch

253-256 **Components of Resistance to *Puccinia arachidis* in Peanuts** ..... P. Subrahmanyam, D. McDonald, R. W. Gibbons, and P. V. Subba Rao

261-268 **Role of the Hypodermis and Secondary Cell Wall Thickening in Basal Stem Internodes in Resistance to Strawbreaker Foot Rot in Winter Wheat** ..... T. D. Murray and G. W. Bruehl

304-307 **Host Specialization of *Heterobasidion annosum*** ..... J. J. Worrall, J. R. Parmeter, Jr., and F. W. Cobb, Jr.

ECOLOGY AND EPIDEMIOLOGY

139-143 **Influence of Temperature and Rainfall on the Development of Tobacco Black Shank** ..... W. R. Jacobi, C. E. Main, and N. T. Powell

163-165 **Isolation of *Agrobacterium tumefaciens* Biovar 3 from Grapevine Galls and Sap, and from Vineyard Soil** ..... T. J. Burr and B. H. Katz

208-212 **Effect of Soil Water Matric Potential on Resistance to *Fusarium oxysporum* f. sp. *medicaginis* in Alfalfa** ..... G. Emberger and R. E. Welty

217-219 **Effect of Seed Piece Inoculation with Plant Growth-Promoting Rhizobacteria on Populations of *Erwinia carotovora* on Potato Roots and in Daughter Tubers** ..... J. W. Kloepper

257-261 **Saprophytic Development of *Pythium ultimum* in Soil as a Function of Water Matric Potential and Temperature** ..... R. Lifshitz and J. G. Hancock

286-289 **Cultural Techniques and Conditions Influencing Growth and Sporulation of *Cercospora zeae-maydis* and Lesion Development in Corn** ..... P. M. Beckman and G. A Payne

308-312 **Development of a Simple Mechanistic Model of Cereal Rust Progress** ..... R. A. Fleming

DISEASE CONTROL AND PEST MANAGEMENT

166-172 **Predicting Development of Epidemics on Cultivar Mixtures** ..... H. Ostergaard

228-234 **Microbial Antagonism to the Imperfect Stage of the Apple Scab Pathogen, *Venturia inaequalis*** ..... J. H. Andrews, F. M. Berbee, and E. V. Nordheim

274-278 **The Role of Microorganisms in the Suppression of *Rhizoctonia solani* in Container Media Amended with Composted Hardwood Bark** ..... E. B. Nelson and H. A. J. Hoitink

279-281 **Effects of Organic Components in Container Media on Suppression of Fusarium Wilt of Chrysanthemum and Flax** ..... D. G. Chef, H. A. J. Hoitink, and L. V. Madden

GENETICS

155-158 **Mating Behavior of Japanese Isolates of *Pyricularia oryzae*** ..... S. Itoi, T. Mishima, S. Arase, and M. Nozu

182-185 **Reactions of Sugar Beet to Powdery Mildew: Genetic Variation, Association Among Testing Procedures, and Resistance Breeding** ..... E. D. Whitney, R. T. Lewellen, and I. O. Skoyen

269-273 **Genetic Analysis of Cucumber Mosaic Virus in Relation to Host Resistance: Location of Determinants for Pathogenicity to Certain Legumes and *Lactuca saligna*** ..... M. C. Edwards, D. Gonsalves, and R. Provvidenti

PHYSIOLOGY AND BIOCHEMISTRY

178-181 **Serological Analysis of *Pseudomonas syringae* pv. *tomato*** ..... H. B. Fackrell and R. C. Sinha

199-203 **Stimulation of Sexual Reproduction of the A2 Mating Type of *Phytophthora cinnamomi* by Oleic Acid and Lipids from Avocado Roots** ..... A. I. Zaki, G. A. Zentmyer, J. J. Sims, and N. T. Keen

213-216 **Water Relations in Cotton Plants Infected with *Phymatotrichum*** ..... M. W. Olsen, I. J. Misaghi, D. Goldstein, and R. B. Hine

224-227 **Evaluation of Two-Dimensional Polyacrylamide Gel Electrophoresis of Acidic Proteins of Ribosome Preparations for Identifying Plant Pathogenic Soft-Rotting Bacteria** ..... H. E. Moline, K. S. Johnson, and J. D. Anderson

249-252 **Differential Effect of Light on Spore Germination of *Exserohilum turcicum* on Corn Leaves and Corn Leaf Impressions** ..... Y. Levy and Y. Cohen

SPECIAL TOPICS

134-139 **Effects of Growth Medium and Fertilizer Rate on the Yield Response of Soybeans Exposed to Chronic Doses of Ozone** ..... A. S. Heagle, M. B. Letchworth, and C. A. Mitchell

147-151 **Influence of Nutrition on the Formation of Basidia and Basidiospores in *Thanatephorus cucumeris*** ..... G. C. Adams, Jr., and E. E. Butler

152-155 **Environmental Factors Influencing the Formation of Basidia and Basidiospores in *Thanatephorus cucumeris*** ..... G. C. Adams, Jr., and E. E. Butler

293-300 **The Relationship of Some *Elsinoë* and *Sphaceloma* Species Pathogenic on Cassava and Other Euphorbiaceae in Central and South America** ..... R. S. Zeigler and J. C. Lozano

CYTOLOGY AND HISTOLOGY

290-293 **Cytoplasmic Cylindrical and Nucleolar Inclusions Induced by Potato Virus-A** ..... J. R. Edwardson and R. G. Christie

POSTHARVEST PATHOLOGY AND MYCOTOXINS

282-285 **Effect of Different Atmospheres on Postharvest Decay and Quality of Fresh Strawberries** ..... M. K. El-Kazzaz, N. F. Sommer, and R. J. Fortlage

SYMPOSIUM ON DETERIORATION MECHANISMS IN SEEDS

314-315 **Introduction** ..... D. C. McGee

315-317 **Lipid Degradation During Seed Deterioration** ..... A. J. St. Angelo and R. L. Ory

317-321 **Protein Degradation During Seed Deterioration** ..... J. P. Cherry

321-325 **Deterioration of Seeds During Aging** ..... J. D. Anderson and J. E. Baker

326-329 **Mechanisms of Seed Infection and Pathogenesis** ..... G. E. Harman

330-335 **Insect-Fungus Associations Influencing Seed Deterioration** ..... J. T. Mills

335-339 **Deterioration Resistance Mechanisms in Seeds** ..... J. M. Halloin

DISCUSSION ON FASTIDIOUS PROKARYOTES AS PLANT PATHOGENS

341 **Introduction** ..... R. E. Davis

341-346 **Properties and Relationships of Two Xylem-Limited Bacteria and a Mycoplasmalike Organism Infecting Bermuda Grass** ..... M. J. Davis, R. H. Lawson, A. G. Gillaspie, Jr., and R. W. Harris

347-350 **Gram-Negative, Xylem-Limited Bacteria in Plant Disease** ..... D. L. Hopkins

350-353 **Current Status of the Etiology of Pear Decline** ..... B. C. Raju, G. Nyland, and A. H. Purcell

354-357 **Brittle Root of Horseradish in Illinois and the Distribution of *Spiroplasma citri* in the United States** ..... J. Fletcher

357-360 **Evidence for a Mixed Infection of Spiroplasma and Nonhelical Mycoplasmalike Organisms in Cherry with X-Disease** ..... J. W. Kloepper and D. G. Garrott

ABSTRACTS

361-378 **Abstracts of papers presented at the 1982 meeting of the Northeastern Division**

No. 3—March

LETTER TO THE EDITOR

379 **Can Horizontal Resistance be Recognized in the Presence of Vertical Resistance in Plants Exposed to a Mixture of Pathogen Races?** ..... J. E. Parlevliet

380 **Terminology to Describe the Differentiation Response by Germlings of Fungal Spores** ..... R. C. Staples, V. Macko, W. K. Wynn, and H. C. Hoch

381-383 **Bridging a Gap Between Related Fields of Research: Pistil-Pollen Relationships and the Distinction Between Incompatibility and Incongruity in Nonfunctioning Host-Parasite Relationships** ..... N. G. Hogenboom

ETIOLOGY

449-454 **Strains of Bean Yellow Mosaic Virus Compared to Clover Yellow Vein Virus in Relation to Gladiolus Production in Florida** ..... J. Nagel, F. W. Zettler, and E. Hiebert

470-475 **Identification and Partial Characterization of a Closterovirus Infecting *Nandina domestica*** ..... N. A. Ahmed, S. R. Christie, and F. W. Zettler

DISEASE DETECTION AND LOSSES

419-423 **Double-Stranded RNA from Plants Infected with Closteroviruses** ..... J. Allan Dodds and M. Bar-Joseph

480-483 **Serological Detection of Bean Pod Mottle Virus in Bean Leaf Beetles** ..... S. A. Ghabrial and F. J. Schultz

PHYSIOLOGY AND BIOCHEMISTRY

384-389 **Suppressive Influence of *Laccaria laccata* on *Fusarium oxysporum* and on Douglas-fir Seedlings** ..... D. M. Sylvia and W. A. Sinclair

398-402 **Stomatal Closure in Plants Infected with Mycoplasmalike Organisms** ..... J. A. Matteoni and W. A. Sinclair

435-438 **Effects of Potato Tuber Age and Storage on Sesquiterpenoid Stress Metabolite Accumulation, Steroid Glycoalkaloid Accumulation, and Response to Abscisic and Arachidonic Acids** ..... R. M. Bostock, E. Nuckles, J. W. D. M. Henfling, and J. A. Kuć

DISEASE CONTROL AND PEST MANAGEMENT

407-411 **Physiological and Biocontrol Characteristics of Stable Mutants of *Trichoderma viride* Resistant to MBC Fungicides** ..... G. C. Papavizas and J. A. Lewis

463-469 **Suppression of Take-All of Wheat by Seed Treatments with Fluorescent Pseudomonads** ..... D. M. Weller and R. J. Cook

475-479 **Effects of Chlorothalonil on the Virulence and Physiology of a Nontargeted Pathogen, *Sclerotinia minor*** ..... F. C. Hau and M. K. Beute

TECHNIQUES

424-428 **Etiolated Maize Mesocotyls: A Tool for Investigating Disease Interactions** ..... D. Heim, R. L. Nicholson, S. F. Pascholati, A. E. Hagerman, and W. Billett

458-462 **Effects of Isolation Techniques and Media on the Differential Isolation of *Fusarium* species** ..... M. P. McMullen and R. W. Stack

ECOLOGY AND EPIDEMIOLOGY

411-413 **Elevated pH and Associated Reduced Trace-Nutrient Availability as Factors Contributing to Take-All of Wheat upon Soil Liming** ..... E. M. Reis, R. J. Cook, and B. L. McNeal

414-419 **Temperature and Host Effects on Latent and Infectious Periods and on Urediniospore Production of *Puccinia recondita* f. sp. *tritici*** ..... J. R. Tomerlin, M. G. Eversmeyer, C. L. Kramer, and L. E. Browder

429-434 **Effect of Chemical Soil Treatment on Plant Growth, Nitrogen Fixation, and Fungal Colonization of *Rhizobium* Nodules of Soybeans** ..... K. D. Widin and B. W. Kennedy

439-441 **Effects of Maize Dwarf Mosaic Virus Infection of Corn on Inoculum Potential of *Helminthosporium maydis* Race O** ..... C. Stevens and R. T. Gudauskas

442-448 **Factors Affecting Oospore Germination of *Phytophthora megasperma* f. sp. *medicaginis*** ..... H. Förster, O. K. Ribeiro, and D. C. Erwin

490-493 **Weather Factors Affecting Downy Mildew Epidemics of Hops in the Yakima Valley of Washington** ..... D. A. Johnson, C. B. Skotland, and J. R. Alldredge

CYTOLOGY AND HISTOLOGY

390-397 **Phenolic Compounds and Resistance to Fungal Pathogens Induced in Primary Roots of Douglas-Fir Seedlings by the Ectomycorrhizal Fungus *Laccaria laccata*** ..... D. M. Sylvia and W. A. Sinclair

484-489 **Specificity of the Envelopment of Bacteria and Other Particles in Cotton Cotyledons** ..... A. H. Al-Mousawi, P. E. Richardson, M. Essenberg, and W. M. Johnson

494-497 **Penetration and Infection of Leaves of Black Walnut by *Marssonina juglandis* and Resulting Lesion Development** ..... S. Cline and D. Neely

GENETICS

455-457 **Genetic Control of Two Parasitic Fitness Attributes of *Helminthosporium maydis* Race T** ..... J. P. Hill and R. R. Nelson

SPECIAL TOPICS

403-406 **Bacteriophages from Sewage Specific for Fluorescent Phytopathogenic Pseudomonads** ..... M. D. Thomas and J. V. Leary

ABSTRACTS

498-507 **Abstracts of papers presented at the 1983 meeting of the Southern Division**

508 **Erratum**

No. 4—April

OBITUARY

509 **Cecil Edmund Yarwood, 1907–1981** ..... A. H. Gold, A. R. Weinhold, and L. M. Black

LETTER TO THE EDITOR

510-512 **Estimating Relative Fitness in Plant Parasites: Some General Problems** ..... J. A. Barrett

512-514 **Race Dynamics of *Puccinia graminis* f. sp. *tritici* in the USA from 1973 to 1980** ..... S. Nagarajan

514-515 **Some Additional Comments on Sorting Infection-Type Data Sets** ..... D. R. Knott and R. Johnson

ETIOLOGY

515-520 **Comparison of a New Soilborne Virus from Cucumber with Tombus-, Diantho-, and Other Similar Viruses** ..... R. Koenig, D.-E. Lesemann, W. Huth, and K. M. Makkouk

596-599 **Pathogenicity of *Leptographium* and *Verticicladiella* spp. Isolated from Roots of Western North American Conifers** ..... T. C. Harrington and F. W. Cobb, Jr.

DISEASE DETECTION AND LOSSES

520-524 **Quantification of Foliar Plant Disease Symptoms by Microcomputer-Digitized Video Image Analysis** ..... S. E. Lindow and R. R. Webb

551-555 **Injury and Yield Responses of Peanuts to Chronic Doses of Ozone in Open-Top Field Chambers** ..... A. S. Heagle, M. B. Letchworth, and C. A. Mitchell

607-609 **Yield Loss of Maize Caused by *Kabatiella zeae*** ..... F. J. B. Reifschneider and D. C. Arny

ECOLOGY AND EPIDEMIOLOGY

525-529 **Escape of *Peronospora tabacina* Spores from a Field of Diseased Tobacco Plants** ..... D. E. Aylor and G. S. Taylor

544-546 **Effects of Certain Solutes, Osmotic Potential, and Soil Solutions on Parasitism of *Criconemella xenoplax* by *Hirsutella rhossiliensis*** ..... B. A. Jaffee and E. I. Zehr

559-561 **Role of Primary and Secondary Zoospores of *Plasmodiophora brassicae* in the Development of Clubroot in Chinese Cabbage** ..... R. L. Dobson and R. L. Gabrielson

577-581 **Association of *Pseudomonas syringae* pv. *lachrymans* and Other Bacterial Pathogens with Roots** ..... C. Leben

VECTOR RELATIONS

530-535 **Colonization of the Sharpshooter Vectors, *Oncometopia nigricans* and *Homalodisca coagulata*, by Xylem-Limited Bacteria** ..... R. H. Brlansky, L. W. Timmer, W. J. French, and R. E. McCoy

582-585 **Transmission of *Spiroplasma citri* by *Circulifer tenellus*** ..... H.-Y. Liu, D. J. Gumpf, G. N. Oldfield, and E. C. Calavan

585-590 **The Relationship of *Spiroplasma citri* and *Circulifer tenellus*** ..... H.-Y Liu, D. J. Gumpf, G. N. Oldfield, and E. C. Calavan

PHYSIOLOGY AND BIOCHEMISTRY

536-539 **Oxygen Status of Potato Tuber Tissue in Relation to Maceration by Pectic Enzymes of *Erwinia carotovora*** ..... E. A. Maher and A. Kelman

630-633 **Influence of O_2 and CO_2 on Wood Decay by Heartrot and Saprot Fungi** ..... T. L. Highley, S. S. Bar-Lev, T. K. Kirk, and M. J. Larsen

DISEASE CONTROL AND PEST MANAGEMENT

540-543 **Effects of Fall Infection by *Gaeumannomyces graminis* var. *tritici* and Triadimenol Seed Treatment on Severity of Take-All in Winter Wheat** ..... W. W. Bockus

547-551 **Calculation of Selection Coefficients Against Unnecessary Genes for Virulence from Field Data** ..... M. W. Grant and S. A. Archer

610-615 **Effect of Mulching on Web Blight of Beans in Costa Rica** ..... J. J. Galindo, G. S. Abawi, H. D. Thurston, and G. Gálvez

RESISTANCE

556-558 **Sporulation of *Cercospora arachidicola* as a Criterion for Screening Peanut Genotypes for Leaf Spot Resistance** ..... S. M. Gobina, H. A. Melouk, and D. J. Banks

619-623 **Wound-Induced Lignin Formation and Resistance to Cellulase in Oat Leaves** ..... G. T. Geballe and A. W. Galston

CYTOLOGY AND HISTOLOGY

561-564 **Histopathology of Root Disease Incited by *Thielaviopsis basicola* in *Ilex crenata*** ..... R. L. Wick and L. D. Moore

590-595 **Histopathology of Susceptible and Resistant Soybean Roots Inoculated with Zoospores of *Phytophthora megasperma* f. sp. *glycinea*** ..... J. E. Beagle-Ristaino and J. F. Rissler

615-619 **Ultrastructural Cytology of Soybean Infected with Mild and Severe Strains of Soybean Mosaic Virus** ..... P. L. Hunst and S. A. Tolin

GENETICS

565-569 **Ascospore Dimorphism in *Sclerotinia trifoliorum* and Cultural Characters of Strains from Different-Sized Spores** ..... J. Y. Uhm and H. Fujii

569-572 **Heterothallism and Mating Type Mutation in *Sclerotinia trifoliorum*** ..... J. Y. Uhm and H. Fujii

600-603 **Genetics of Resistance to Benomyl in *Venturia inaequalis* Isolates from Israel and New York** ..... T. Katan, E. Shabi, and J. D. Gilpatrick

603-606 **Spontaneous Occurrence of the Sekiguchi Lesion in Two American Rice Lines: Its Induction, Inheritance, and Utilization** ..... M. A. Marchetti, C. N. Bollich, and F. A. Uecker

TECHNIQUES

573-576 **Separation of Strains of *Pseudomonas syringae* pv. *tomato* into Serovars by Three Serological Methods** ..... J. B. Jones, D. L. Dawe, and S. M. McCarter

623-629 **Development of a Solid-Phase Radioimmunoassay for Detection of Soybean Mosaic Virus** ..... G. R. Bryant, D. P. Durand, and J. H. Hill

634 **Errata**

No. 5—May

OBITUARY

635 **John Daniel Gilpatrick, 1924–1982** ..... G. S. Abawi, R. Provvidenti, and M. Szkolnik

ETIOLOGY

640-645 **Etiology of Bacterial Leaf Streak of Wild Rice** ..... R. L. Bowden and J. A. Percich

PHYSIOLOGY AND BIOCHEMISTRY

664-670 **Partial Purification of Proteinase Inhibitors from Tomato Plants Infected with *Phytophthora infestans*** ..... T. E. Cleveland and L. L. Black

730-734 **Stimulation of Oospore Production in *Phytophthora megasperma* f. sp. *medicaginis* by Medicarpin** ..... A. Vaziri, N. T. Keen, and D. C. Erwin

737-740 **Soluble Sugars and Free Amino Acids of *Poa Pratensis* Exposed to Chlorophenoxy Herbicides and Pathogenesis by *Drechslera sorokiniana*** ..... J. P. Madsen and C. F. Hodges

747-755 **Characterization of Membrane Proteins of *Xanthomonas campestris* pv. *campestris*** ..... G. V. Minsavage and N. W. Schaad

ECOLOGY AND EPIDEMIOLOGY

636-640 **Quantitative Assay by Elutriation of Peanut Field Soil for Sclerotia of *Sclerotinia minor*** ..... D. M. Porter and J. L. Steele

655-659 **Effect of Soilborne *Pseudomonas* spp. on the Biological Control Agent, *Trichoderma hamatum*, on Pea Seeds** ..... J. P. Hubbard, G. E. Harman, and Y. Hadar

670-676 **Prediction of Weather-Mediated Release of Conidia of *Botrytis squamosa* from Onion Leaves in the Field** ..... M. L. Lacy and G. A. Pontius

680-684 **Reinvasion of Fumigated Soil by *Fusarium oxysporum* f. sp. *melonis*** ..... J. J. Marois, M. T. Dunn, and G. C. Papavizas

714-718 **Effect of Time of Inoculation with *Cladosporium caryigenum* on Pecan Scab Development and Nut Quality** ..... T. R. Gottwald and P. F. Bertrand

722-725 **Biotic and Environmental Factors Affecting Infection of Sweet Corn with *Exserohilum turcicum*** ..... Y. Levy and Y. Cohen

741-746 **Analysis of Spore Dispersal Gradients of *Botrytis cinerea* and Gray Mold Disease Gradients in Snap Beans** ..... K. B. Johnson and M. L. Powelson

RESISTANCE

645-649 **Dilatory Resistance to Rice Blast in USA Rice** ..... M. A. Marchetti

719-722 **Responses to *Septoria glycines* of Soybean Nearly Isogenic Except for Seed Color** ..... S. M. Lim

726-729 **Influence of Host Genotype on Uredospore Production and Germinability in *Puccinia arachidis*** ..... P. Subrahmanyam, D. McDonald, and P. V. Subba Rao

TECHNIQUES

660-664 **An Enzyme-Linked Immunosorbent Blocking Assay for Comparing Closely Related Virus Isolates** ..... C. A. Powell and M. A. Derr

676-679 **A Rapid Technique for Inoculation of *Phaseolus vulgaris* with Multiple Pathotypes of *Uromyces phaseoli*** ..... J. R. Stavely

699-702 **Diagnosis of Specific Viral RNA Sequences in Plant Extracts by Hybridization with a Polynucleotide Kinase-Mediated, ^{32}P-Labeled, Double-Stranded RNA Probe** ..... A. Rosner, M. Bar-Joseph, M. Moscovitz, and M. Mevarech

755-759 **Comparative Purification of Two Luteoviruses** ..... C. J. D'Arcy, A. D. Hewings, P. A. Burnett, and H. Jedlinski

760-764 **Fluorescent Antibody Studies with *Eutypa armeniacae*** ..... E. H. Gendloff, D. C. Ramsdell, and C. L. Burton

POSTHARVEST PATHOLOGY AND MYCOTOXINS

691-694 **Resistance of Healed Citrus Exocarp to Penetration by *Penicillium digitatum*** ..... G. E. Brown and C. R. Barmore

708-713 **Relation of Postharvest Decay Fungi to the Slip-Skin Maceration Disorder of Dried French Prunes** ..... P. L. Sholberg and J. M. Ogawa

734-736 **Reducing Sugars and Minerals from Lint of Unopened Cotton Bolls as a Substrate for Aflatoxin and Kojic Acid Synthesis by *Aspergillus flavus*** ..... L. S. Lee, E. J. Conkerton, K. C. Ehrlich, and A. Ciegler

DISEASE CONTROL AND PEST MANAGEMENT

650-654 **Antagonism of *Athelia bombacina* and *Chaetomium globosum* to the Apple Scab Pathogen, *Venturia inaequalis*** ..... C. C. Heye and J. H. Andrews

VECTOR RELATIONS

685-690 **Vector Relationship of *Graminella nigrifrons* to Maize Chlorotic Dwarf Virus** ..... M. M. Choudhury and E. Rosenkranz

SPECIAL TOPICS

695-699 **Infection of Sugarcane Leaves by *Puccinia melanocephala*** ..... I. A. Sotomayor, L. H. Purdy, and A. T. Trese

703-708 **Evidence that Antagonistic Bacteria Suppress Fusarium Wilt of Celery in Neutral and Alkaline Soils** ..... D. C. Opgenorth and R. M. Endo

765-844 **Abstracts of presentations at the 1983 Annual Meeting**

No. 6—June

ETIOLOGY

859-862 **Isolation, Culture, and Pathogenicity of the Bacterium Causing Phony Disease of Peach** ..... J. M. Wells, B. C. Raju, and G. Nyland

DISEASE CONTROL AND PEST MANAGEMENT

890-893 **Interactions of Antagonist and Pathogen in Biological Control of Onion White Rot** ..... R. S. Utkhede and J. E. Rahe

925-927 **Occurrence of Metalaxyl-Resistant Isolates of *Phytophthora infestans* in Potato Fields in Israel** ..... Y. Cohen and M. Reuveni

ECOLOGY AND EPIDEMIOLOGY

7863-871 **Stalk Rot of Corn: Mechanism of Predisposition by an Early Season Water Stress** ..... R. W. Schneider and W. E. Pendery

875-878 **Comparison of Host Ranges of *Peronosclerospora philippinensis* and *P. sacchari*** ..... M. R. Bonde and G. L. Peterson

893-896 **Effects of Temperature, Dew Period, and Light on the Growth and Development of *Alternaria helianthi*** ..... S. J. Allen, J. F. Brown, and J. K. Kochman

896-898 **Effects of Leaf Age, Host Growth Stage, Leaf Injury, and Pollen on the Infection of Sunflower by *Alternaria helianthi*** ..... S. J. Allen, J. F. Brown, and J. K. Kochman

914-918 **Relationship Between Weather and Soybean Seed Infection by *Phomopsis* sp.** ..... D. M. TeKrony, D. B. Egli, R. E. Stuckey, and J. Balles

CYTOLOGY AND HISTOLOGY

854-858 **Histopathology of the Brown Spot Fungus on Longleaf Pine Needles** ..... F. F. Jewell, Sr.

882-889 **Histopathology of *Fusarium moniliforme* var. *subglutinans* in Four Species of Southern Pines** ..... J. Barrows-Broaddus and L. D. Dwinell

PHYSIOLOGY AND BIOCHEMISTRY

879-882 **Cadmium-Zinc Interrelationships in Tomato Plants** ..... G. C. Smith and E. G. Brennan

GENETICS

845-850 **Inheritance of Resistance to Maize Dwarf Mosaic Virus in Maize Inbred Line Oh7B** ..... C. W. Roane, S. A. Tolin, and C. F. Genter

928-931 **The Genetics of a Distinguishing Pigmentation Reaction of *Typhula idahoensis* and *T. ishikariensis*** ..... G. W. Bruehl, D. Jacobs, and R. Machtmes

RESISTANCE

907-910 **Characteristic Cellular Responses as Expression of Genes for Resistance to *Erysiphe graminis* f. sp. *hordei* in Barley** ..... H. Koga, H. Toyoda, S. Mayama, J. Shishiyama, and U. Hiura

911-914 ***Septoria nodorum* on Barley and Relationships Among Isolates from Several Hosts** ..... B. M. Cunfer and J. Youmans

931-935 **Growth of Uredinia of *Puccinia recondita* in Leaves of Slow- and Fast-Rusting Wheat Cultivars** ..... G. Shaner

VECTOR RELATIONS

872-875 **Role of Virion and Helper Component in Regulating Aphid Transmission of Tobacco Etch Virus** ..... T. P. Pirone and D. W. Thornbury

919-922 **Interference Between Two Luteoviruses in an Aphid: Lack of Reciprocal Competition** ..... W. F. Rochow, I. Muller, and F. E. Gildow

936-938 **Regurgitant as a Determinant of Specificity in the Transmission of Plant Viruses by Beetles** ..... R. C. Gergerich, H. A. Scott, and J. P. Fulton

PHYSIOLOGY AND BIOCHEMISTRY

903-906 **Comparison of Anastomosis Groups of *Rhizoctonia solani* by Polyacrylamide Gel Electrophoresis of Soluble Proteins** ..... M. Reynolds, A. R. Weinhold, and T. J. Morris

TECHNIQUES

899-903 **Purification and Serology of Peanut Mottle Virus** ..... S. A. Tolin and R. H. Ford

922-925 **A Sequential Sampler for Monitoring Water-Disseminated Pathogens from Trees** ..... B. D. Olson and A. L. Jones

SPECIAL TOPICS

850-854 **Bacterial Reservoir of an Agent Infectious to Fungi** ..... G. D. Lindberg

SYMPOSIUM ON GENETIC ASPECTS OF BREEDING FOR RESISTANCE AGAINST SOILBORNE PLANT PATHOGENS

940 **Introduction** ..... G. S. Sidhu

941-944 **Genetical Aspects of Interaction Between Plant Hosts and Their Soilborne Pathogens** ..... A. H. Ellingboe

944-948 **Genetics of the Cyst Nematode-Soybean Symbiosis** ..... V. D. Luedders

948-951 **Nonspecific Genetic Resistance to Soilborne Fungi** ..... G. W. Bruehl

952-955 **Sexual and Parasexual Variability in Soil Fungi with Special Reference to *Fusarium moniliforme*** ..... G. S. Sidhu

ABSTRACTS

956-963 **Abstracts of papers presented at the 1983 meeting of the Pacific Division**

964-970 **Abstracts of papers presented at the 1983 meeting of the Potomac Division**

970 **Errata**

No. 7—July

ETIOLOGY

971-974 **Association of Spiral Filamentous Viruslike Particles with Rice Hoja Blanca** ..... F. J. Morales and A. I. Niessen

975-979 **A Fastidious, Xylem-Limited Bacterium Infecting Ragweed** ..... L. W. Timmer, R. H. Brlansky, R. F. Lee, and B. C. Raju

980-983 **Relationships of Planting Density and Competition to Growth Characteristics and Internal Crown Breakdown in Arrowleaf Clover** ..... R. G. Pratt and W. E. Knight

1092-1096 **Infection of Trembling Aspen by *Hypoxylon mammatum* Through Cicada Oviposition Wounds** ..... M. E. Ostry and N. A. Anderson

PHYSIOLOGY AND BIOCHEMISTRY

992-997 **Enhancement by Soybean Mosaic Virus of Bean Pod Mottle Virus Titer in Doubly Infected Soybean** ..... L. A. Calvert and S. A. Ghabrial

1002-1004 **Influence of *Heterodera glycines* on Leghemoglobins of Soybean Nodules** ..... J.-S. Huang and K. R. Barker

1060-1063 **Evidence for Xylem Dysfunction by Embolization in Dutch Elm Disease** ..... D. Newbanks, A. Bosch, and M. H. Zimmermann

ECOLOGY AND EPIDEMIOLOGY

1014-1020 **Interplot Interference: A Model for Planning Field Experiments with Aerially Disseminated Pathogens** ..... R. E. Paysour and W. E. Fry

1020-1023 **Influence of Dew Period and Temperature on Infection of Onion Leaves by Dry Conidia of *Botrytis squamosa*** ..... S. C. Alderman and M. L. Lacy

1024-1030 **Environmental Factors Affecting Survival of Ascospores of *Sclerotinia sclerotiorum*** ..... A. J. Caesar and R. C. Pearson

1035-1040 **Interactions Between *Glomus geosporum* and Exposure of Soybeans to Ozone or Simulated Acid Rain in the Field** ..... P. F. Brewer and A. S. Heagle

1046-1048 **Composition of Wheat Straw Infested with *Cephalosporium gramineum* and Implications for Its Decomposition in Soil** ..... T. D. Murray and G. W. Bruehl

1054-1059 **Evaluation of Potato Late Blight Forecasts Modified to Incorporate Host Resistance and Fungicide Weathering** ..... W. E. Fry, A. E. Apple, and J. A. Bruhn

1064-1068 **Horizontal Distribution and Characterization of *Rhizoctonia* spp. in Tall Fescue Turf** ..... S. B. Martin, C. L. Campbell, and L. T. Lucas

RESISTANCE

984-988 **Potential for *Phytophthora infestans* Populations to Adapt to Potato Cultivars with Rate-Reducing Resistance** ..... R. V. James and W. E. Fry

1051-1054 **Virulence of North American and European Isolates of *Verticillium albo-atrum* on Alfalfa Cultivars** ..... A. A. Christen, R. N. Peaden, G. P. Harris, and J. B. Heale

1077-1083 **Assessment of Interactions Between Cultivated and Wild Wheats and *Septoria tritici*** ..... M. Yechilevich-Auster, E. Levi, and Z. Eyal

1084-1092 **Survival of American Chestnut Trees: Evaluation of Blight Resistance and Virulence in *Endothia parasitica*** ..... G. J. Griffin, F. V. Hebard, R. W. Wendt, and J. R. Elkins

CYTOLOGY AND HISTOLOGY

1072-1076 **Histological and Physiological Aspects of Infection of Sclerotia of Two *Sclerotinia* Species by Two Mycoparasites** ..... P. B. Adams and W. A. Ayers

DISEASE CONTROL AND PEST MANAGEMENT

1030-1034 **Effects of Hypovirulence in *Cryphonectria parasitica* and of Secondary Blight Infections on Dieback of American Chestnut Trees** ..... E. G. Kuhlman

1049-1050 **Eradication of Potato Viruses X and S from Potato Shoot-Tip Cultures with Ribavirin** ..... R. W. Kleinand C. H. Livingston

1068-1071 **Calcium Infiltration of Golden Delicious Apples and Its Effect on Decay** ..... W. S. Conway and C. E. Sams

POSTHARVEST PATHOLOGY AND MYCOTOXINS

998-1001 **Ethylene Effects on In Vitro and In Vivo Growth of Certain Postharvest Fruit-Infecting Fungi** ..... M. K. El-Kazzaz, N. F. Sommer, and A. A. Kader

TECHNIQUES

1005-1008 **Some Genetic Techniques for *Gibberella zeae*** ..... J. F. Leslie

1009-1014 **A Sensitive Method for Quantifying *Verticillium dahliae* Colonization in Plant Tissue and Evaluating Resistance Among Potato Genotypes** ..... J. R. Davis, J. J. Pavek, and D. L. Corsini

1040-1042 **Microhumidity Chamber for Quantitative Inoculations of Attached Corn Leaves with Fungal Pathogens** ..... G. C. Bergstrom and R. L. Nicholson

SPECIAL TOPICS

989-991 **Spiroplasmalike Organisms in a Vesicular-Arbuscular Mycorrhizal Fungus and Its Mycoparasite** ..... S. S. Tzean, C. L. Chu, and H. J. Su

1043-1046 **Penetration of Sclerotia of *Sclerotium rolfsii* by *Trichoderma* spp.** ..... Y. Henis, P. B. Adams, J. A. Lewis, and G. C. Papavizas

1096 **Erratum**

No. 8—August

ETIOLOGY

1130-1135 **Evidence for Viruslike Agents in Avocado** ..... R. L. Jordan, J. A. Dodds, and H. D. Ohr

1206-1209 **Soft Rot of Crisphead Lettuce Incited by *Erwinia carotovora* subsp. *carotovora* in Hawaii** ..... J. J. Cho

ECOLOGY AND EPIDEMIOLOGY

1097-1102 **Biological Control of Frost Injury: An Isolate of *Erwinia herbicola* Antagonistic to Ice Nucleation Active Bacteria** ..... S. E. Lindow, D. C. Arny, and C. D. Upper

1102-1106 **Biological Control of Frost Injury: Establishment and Effects of an Isolate of *Erwinia herbicola* Antagonistic to Ice Nucleation Active Bacteria on Corn in the Field** ..... S. E. Lindow, D. C. Arny, and C. D. Upper

1109-1113 **Disease Progess and Yield Loss in Aphanomyces Root Rot of Peas** ..... W. F. Pfender and D. J. Hagedorn

1120-1125 **Relation of Soil Redox Potential to Infection of Ponderosa Pine by *Ceratocystis wageneri*** ..... D. S. Wilks, P. L. Gersper, and F. W. Cobb, Jr.

1135-1139 **Survival of Detached Sporangia of *Peronospora destructor* and *Peronospora tabacina*** ..... E. Bashi and D. E. Aylor

1140-1145 **Inhibition of Wood-Decay Fungi by Wetwood of White Fir** ..... J. J. Worrall and J. R. Parmeter, Jr.

1145-1147 **Influence of Controlled Environment and Age on Development of *Alternaria macrospora* and on Shedding of Leaves in Cotton** ..... E. Bashi, J. Rotem, H. Pinnschmidt, and J. Kranz

1148-1152 **Inhibitory Effect of *Bacillus subtilis* on *Uromyces phaseoli* and on Development of Rust Pustules on Bean Leaves** ..... C. J. Baker, J. R. Stavely, C. A. Thomas, M. Sasser, and J. S. M[illegible]-Fall

1160-1163 **Effects of Soil Matric Potential on Infection of Tobacco by *Phytophthora parasitica* var. *nicotianae*** ..... H. D. Shew

1168-1173 **Models for the Spread of Disease: Model Description** ..... K. P. Minogue and W. E. Fry

1173-1176 **Models for the Spread of Plant Disease: Some Experimental Results** ..... K. P. Minogue and W. E. Fry

1179-1183 **Epidemiology of the Perfect Stage of *Glomerella cingulata* on Apples** ..... T. B. Sutton and W. W. Shane

1188-1191 **Survival and Splash Dispersal of *Phytophthora parasitica*, Causing Dieback of Rhododendron** ..... C. R. Kuske and D. M. Benson

1192-1196 **Overwintering and Survival of *Phytophthora parasitica*, Causing Dieback of Rhododendron** ..... C. R. Kuske and D. M. Benson

DISEASE DETECTION AND LOSSES

1199-1202 **Detection of Mycoplasmalike Organism Antigens from Aster Yellows-Diseased Plants by Two Serological Procedures** ..... R. C. Sinha and N. Benhamou

PHYSIOLOGY AND BIOCHEMISTRY

1152-1155 **Chemical Composition of Intermediate Wheatgrass Affected by Foliar Diseases and Stem Smut** ..... J. F. Karn and J. M. Krupinsky

1156-1160 **Specific Effects of Soybean Mosaic Virus on Total N, Ureide-N, and Symbiotic N_2-Fixation Activity in *Glycine max* and *G. soja*** ..... R. G. Orellana, S. L. Reynolds, C. Sloger, and P. van Berkum

1209-1214 **Effects of Organophosphorus Pesticides on Cutinase Activity and Infection of Papayas by *Colletotrichum gloeosporioides*** ..... M. B. Dickman, S. S. Patil, and P. E. Kolattukudy

DISEASE CONTROL AND PEST MANAGEMENT

1215-1219 **Short- and Long-Term Effects of Soil Solarization and Crop Sequence on Fusarium Wilt and Yield of Cotton in Israel** ..... J. Katan, G. Fishler, and A. Grinstein

CYTOLOGY AND HISTOLOGY

1106-1108 **Morphogenesis of Cucumber Mosaic Virus-Induced Crystalline Inclusions in Peppers** ..... G. W. Moorman and W. C. Woodbridge

1113-1116 **A Histological Study of Anthracnose on *Carica papaya*** ..... K. F. Chau and A. M. Alvarez

1125-1130 **Nature and Location of Xylem Blockage Structures in Trees with Citrus Blight** ..... M. Cohen, R. R. Pelosi, and R. H. Brlansky

TECHNIQUES

1117-1120 **Grouping of Seven Biological Defined Isolates of Cucumber Mosaic Virus by Peptide Mapping** ..... M. C. Edwards and D. Gonsalves

1177-1179 **Consistent Infection of Corn Seedlings with Oospores of *Peronosclerospora sorghi*** ..... J. Craig

1184-1187 **Technique for Using Isolated Corn Root Cap Cells in a Simple, Quantitative Assay for the Pathotoxin Produced by *Helminthosporium maydis* Race T** ..... M. C. Hawes

VECTOR RELATIONS

1164-1168 ***Ceratocystis fagacearum* and *C. piceae* on the Surfaces of Free-Flying and Fungus-Mat-Inhabiting Nitidulids** ..... J. Juzwik and D. W. French

1196-1199 **Influence of Barley Yellow Dwarf Virus-Infected Oats and Barley on Morphology of Aphid Vectors** ..... F. E. Gildow

RESISTANCE

1203-1205 **Gradual Evolution of Virulence of *Puccinia coronata* on Oats** ..... M. D. Simons and M. E. McDaniel

1220-1222 **Infection Kinetics of *Erysiphe graminis* f. sp. *hordei* on Barley with Different Alleles at the *Ml-a* Locus** ..... R. P. Wise and A. H. Ellingboe

No. 9—September

PHYSIOLOGY AND BIOCHEMISTRY

1241-1246 **Effect of Sodium Dextran Sulfate on Some Isometric Plant Viruses** ..... J. H. Tremaine, W. P. Ronald, and E. M. McGauley

1262-1266 **Effect of an Ozone Injury Retardant Chemical on Isozyme Profiles from Alfalfa Callus in Vitro** ..... J. P. Rier, Jr., V. K. Sood, A. Whitaker, and C. Watson

1296-1299 **Effect of Chlorophenoxy Herbicides on Soluble Sugars and on Pathogenesis by *Drechslera sorokiniana* in Sequentially Senescent Leaves of *Poa pratensis*** ..... J. P. Madsen and C. F. Hodges

1326-1328 **Production of Zinniol by *Alternaria tagetica* and its Phytotoxic Effect on *Tagetes erecta*** ..... P. J. Cotty, I. J. Misaghi, and R. B. Hine

DISEASE DETECTION AND LOSSES

1223-1226 **The Role of *Monosporascus eutypoides* in a Collapse of Melon Plants in an Arid Area of Israel** ..... R. Reuveni, J. Krikun, and U. Shani

1266-1269 **Morphological Variation in Epicuticular Wax of SO_2-Sensitive and -Tolerant Eastern White Pine Clones** ..... C. R. Krause and D. B. Houston

ECOLOGY AND EPIDEMIOLOGY

1234-1237 **Sensitivity of Eastern White Pine Clones to Acute Doses of Ozone, Sulfur Dioxide, or Nitrogen Dioxide** ..... Y. -S. Yang, J. M. Skelly, and B. I. Chevone

1284-1289 **Nature of Suppression of *Pythium splendens* in a Pasture Soil in South Kohala, Hawaii** ..... C. W. Kao and W. H. Ko

1292-1295 **Aggressiveness of Random and Selected Isolates of *Verticillium dahliae* from Cotton and the Quantitative Relationship of Internal Inoculum to Defoliation** ..... L. J. Ashworth, Jr.

1300-1304 **Survival of *Pseudomonas solanacearum* in Selected North Carolina Soils** ..... W. C. Nesmith and S. F. Jenkins, Jr.

1314-1321 **Susceptibility of Representative Native Mississippi Grasses in Six Subfamilies to Maize Dwarf Mosaic Virus Strains A and B and Sugarcane Mosaic Virus Strain B** ..... E. Rosenkranz

1322-1325 **Effects of Pregermination of Pea and Cucumber Seeds and of Seed Treatment with *Enterobacter cloacae* on Rots Caused by *Pythium* spp.** ..... Y. Hadar, G. E. Harman, A. G. Taylor, and J. M. Norton

POSTHARVEST PATHOLOGY AND MYCOTOXINS

1250-1255 **Genotypic Differences in Reaction of Stored Corn Kernels to Attack by Selected *Aspergillus* and *Penicillium* spp.** ..... F. A. Cantone, J. Tuite, L. F. Bauman, and R. Stroshine

TECHNIQUES

1230-1233 **Predicting Potential Fungicide Resistance in Fungal Populations by Using a Continuous Culturing Technique** ..... W. J. McPhee and E. R. Nestmann

1238-1240 **Quantitative Inoculations with *Erysiphe pisi* to Assess Variation of Infection Efficiency on Peas** ..... P. Reeser, D. J. Hagedorn, and D. I. Rouse

1246-1249 **An Aspiration System for Metorological Sensors Used in Epidemiological Studies** ..... J. M. Davis, R. I. Bruck, G. B. Runion, and F. L. Mowry

1255-1258 **Evaluation of a New Field Screening Technique for Smut Resistance in Pearl Millet** ..... R. P. Thakur, K. V. Subba Rao, and R. J. Williams

1259-1262 **Assay for Maize Stripe Virus-Infected Plants by Using Antiserum Produced to a Purified Noncapsid Protein** ..... B. W. Falk and J. H. Tsai

1328-1333 **Amylovorin-Induced Shoot Wilting: Lack of Correlation with Susceptibility to *Erwinia amylovora*** ..... S. V. Beer, T. M. Sjulin, and H. S. Aldwinckle

VECTOR RELATIONS

1309-1313 **Occurrence of Pierce's Disease Bacteria in Plants and Vectors in California** ..... B. C. Raju, A. C. Goheen, and N. W. Frazier

GENETICS

1226-1229 **A Growth Chamber Comparison of Traits of Agressiveness in Sexual and Asexual Populations of *Puccinia coronata*** ..... J. H. Oard and M. D. Simons

1274-1278 **Basidiocarp Induction, Nuclear Condition, Variability, and Heterokaryon Incompatibility in *Athelia* (*Sclerotium*) *rolfsii*** ..... Z. K. Punja and R. G. Grogan

1279-1284 **Hyphal Interactions and Antagonism Among Field Isolates and Single-Basidiospore Strains of *Athelia* (*Sclerotium*) *rolfsii*** ..... Z. K. Punja and R. G. Grogan

1305-1308 **Vegetative Compatibility Groups within *Verticillium dahliae*** ..... J. E. Puhalla and M. Hummel

ETIOLOGY

1270-1273 **Bacterial Species Associated with Wetwood of Elm** ..... C. W. Murdoch and R. J. Campana

1290-1292 **Association of Maize Rough Dwarf Virus with Mal de Rio Cuarto in Argentina** ..... R. G. Milne, G. Boccardo, E. Dal Bó, and F. Nome

1333-1337 **Crown Rot of Alfalfa in Utah** ..... V. Turner and N. K. Van Alfen

ABSTRACTS

1341-1348 **Abstracts of papers presented at the 1983 meeting of the Northeastern Division**

No. 10—October

SPECIAL TOPICS

1349 **Note from the Editor**

1349-1350 **The New Bacterial Nomenclature—What to Do** ..... J. F. Bradbury

1351-1354 **Calculating the Dimensions of the Rhizosphere** ..... R. E. Drury, R. Baker, and G. J. Griffin

1376-1381 **Isolation and Characterization of Phages Useful for Identifying *Pseudomonas syringae* pv. *tomato*** ..... D. A. Cuppels

LETTER TO THE EDITOR

1355-1357 **Calculating the Dimensions of the Rhizosphere—A Response** ..... R. S. Ferriss

GENETICS

1409-1412 **Inheritance of Resistance to Bacterial Blight in Rice Cultivar Cas 209** ..... A. Yoshimura, T. W. Mew, G. S. Khush, and T. Omura

1413-1418 **A Genetic Analysis of the Association Between Resistance to *Meloidogyne incognita* and a Necrotic Response to Infection by a Strain of Potato Virus Y in Tobacco** ..... R. C. Rufty, E. A. Wernsman, and N. T. Powell

1440-1444 **Molecular Relatedness Among Cryptic Plasmids in *Pseudomonas syringae* pv. *glycinea*** .... M. S. Curiale and D. Mills

DISEASE CONTROL AND PEST MANAGEMENT

1429-1436 **Response of Phytoparasitic and Free-Living Nematodes to Soil Solarization and 1,3-Dichloropropene in California** ..... J. J. Stapleton and J. E. DeVay

PHYSIOLOGY AND BIOCHEMISTRY

1386-1392 **Translational Activity of Polysomes of Barley Leaves During Infection by *Erysiphe graminis* f. sp. *hordei*** ..... J. M. Manners and K. J. Scott

1423-1428 **Enzyme Activities in Dormant Spores of Two *Tilletia* Species** ..... S.-q. Yu and E. J. Trione

ETIOLOGY

1358-1363 **Transmission of the Organism Associated with Citrus Greening Disease from Sweet Orange to Periwinkle by Dodder** ..... M. Garnier and J. M. Bové

RESISTANCE

1363-1365 **Competition for Infection Sites and Multiplication of the Competing Strain in Plant Viral Interference** ..... J. L. Sherwood and R. W. Fulton

1418-1423 **Relationship Between Resistance to *Meloidogyne incognita* and a Necrotic Response to Infection by a Strain of Potato Virus Y in Tobacco** ..... R. C. Rufty, N. T. Powell, and G. V. Gooding, Jr.

TECHNIQUES

1374-1376 **Development of a Technique for the Recovery of Soilborne Sclerotia of *Botrytis cinerea*** ..... A. C. Thomas, J. M. Kotzé, and F. N. Matthee

ECOLOGY AND EPIDEMIOLOGY

1365-1368 **Relationship of Soil Cations to the Distribution of *Phymatotrichum omnivorum*** ..... J. P. Mueller, R. B. Hine, D. A. Pennington, and S. J. Ingle

1382-1385 **Regional Models for Predicting Stripe Rust on Winter Wheat in the Pacific Northwest** ..... S. M. Coakley, R. F. Line, and W. S. Boyd

1393-1398 **Survival of *Pseudomonas syringae* pv. *tomato* in Association with Tomato Seed, Soil, Host Tissue, and Epiphytic Weed Hosts in Georgia** ..... S. M. McCarter, J. B. Jones, R. D. Gitaitis, and D. R. Smitley

1398-1402 **Inoculum Density, Pathogenicity, and Interactions of Soybean Root-Infecting Fungi** ..... L. Zambolim, N. C. Schenck, and D. J. Mitchell

1402-1405 **Reduction of the Effects of Pathogenic, Root-Infecting Fungi on Soybean by the Mycorrhizal Fungus, *Glomus mosseae*** ..... L. Zambolim and N. C. Schenck

1445-1449 **Population Dynamics of *Laetisaria arvalis* and Low-Temperature *Pythium* spp. in Untreated and Pasteurized Beet Field Soils** ..... S. B. Martin, H. C. Hoch, and G. S. Abawi

1450-1456 **Fungal Populations in Container Media Amended with Composted Hardwood Bark Suppressive and Conducive to Rhizoctonia Damping-Off** ..... G. A. Kuter, E. B. Nelson, H. A. J. Hoitink, and L. V. Madden

1457-1462 **Effects of Fungal Antagonists and Compost Age on Suppression of Rhizoctonia Damping-Off in Container Media Amended with Composted Hardwood Bark** ..... E. B. Nelson, G. A. Kuter, and H. A. J. Hoitink

1463-1466 **Distribution of *Pythium aphanidermatum* in Rhizosphere Soil and Factors Affecting Expression of the Absolute Inoculum Potential** ..... M. E. Stanghellini, L. J. Stowell, W. C. Kronland, and P. von Bretzel

1467-1469 **Transmission of *Macrophomina phaseolina* in Sunflower by *Cylindrocopturus adspersus*** ... S. M. Yank, C. E. Rogers, and N. D. Luciani

1469-1474 **Factors Affecting Germinability and Susceptibility to Attack of Sclerotia of *Sclerotium rolfsii* by *Trichoderma harzianum* in Field Soil** ..... Y. Henis and G. C. Papavizas

CYTOLOGY AND HISTOLOGY

1368-1374 **The Relation of Blocked Chloroplast Differentiation to Sugarcane Leaf Scald Disease** ..... R. G. Birch and S. S. Patil

1436-1439 **Contact with Membrane Grooves Induces Wheat Stem Rust Uredospore Germlings to Differentiate Appressoria But Not Vesicles** ..... R. C. Staples, H.-J. Grambow, H. C. Hoch, and W. K. Wynn

DISEASE DETECTION AND LOSSES

1406-1409 **Sampling Procedures for Determining Endophyte Content in Tall Fescue Seed Lots by ELISA** ..... M. C. Johnson, R. L. Anderson, R. J. Kryscio, and M. R. Siegel

No. 11—November

LETTER TO THE EDITOR

1475-1480 **Buildup of a Pathogen Subpopulation Resistant to a Systemic Fungicide Under Various Control Strategies: A Flexible Simulation Model** ..... Y. Levy, R. Levi, and Y. Cohen

ETIOLOGY

1481-1488 **Phytophthora Root and Crown Rot of Walnut Trees** ..... S. M. Mircetich and M. E. Matheron

1488-1492 **Properties and Classification of a Potexvirus Isolated from Three Plant Species in Argentina** ..... O. Gracia, R. Koenig, and D.-E. Lesemann

1510-1515 **Periwinkle Wilt Bacterium: Axenic Culture, Pathogenicity, and Relationships to Other Gram-Negative, Xylem-Inhabiting Bacteria** ..... M. J. Davis, B. C. Raju, R. H. Brlansky, R. F. Lee, L. W. Timmer, R. C. Norris, and R. E. McCoy

1536-1539 **Physicochemical Characterization of Maize Mosaic Virus** ..... B. W. Falk and J. H. Tsai

1554-1558 **Effects of a Necrosis-Inducing Isolate of Alfalfa Mosaic Virus on Stand Loss in Tomatoes** ..... D. A. Knorr, F. F. Laemmlen, and W. O. Dawson

1564-1569 **Pathogenicity and Host Specificity of *Rhizoctonia solani* Isolated from Carrots** ..... M. P. Grisham and N. A. Anderson

1570-1572 **Identification of Double-Stranded RNAs Associated with Barley Yellow Dwarf Virus Infection of Oats** ..... F. E. Gildow, M. E. Ballinger, and W. F. Rochow

DISEASE DETECTION AND LOSSES

1559-1563 **A Critical-Point Yield Loss Model for Cylindrocladium Black Rot of Peanut** ..... J. K. Pataky, M. K. Beute, J. C. Wynne, and G. A. Carlson

DISEASE CONTROL AND PEST MANAGEMENT

1520-1525 **Reduction of *Pseudomonas syringae* pv. *morsprunorum* on Montmorency Sour Cherry with Copper and Dynamics of the Copper Residues** ..... B. D. Olson and A. L. Jones

1543-1548 **Effect of Composted Sewage Sludge on Several Soilborne Pathogens and Diseases** ..... R. D. Lumsden, J. A. Lewis, and P. D. Millner

TECHNIQUES

1526-1531 **A 7-Day Recording Volumetric Spore Trap** ..... D. M. Gadoury and W. E. MacHardy

1532-1535 **Evaluation of Tetrazolium Bromide as a Vital Stain for Fungal Oospores** ..... E. D. Sutherland and S. D. Cohen

1540-1543 **Phloem-Limited Prokaryotes in Sieve Elements Isolated by Enzyme Treatment of Diseased Plant Tissues** ..... I.-M. Lee and R. E. Davis

CYTOLOGY AND HISTOLOGY

1492-1499 **In Vitro Resistance of Embryos of *Pinus taeda* to *Cronartium quercuum* f. sp. *fusiforme*: Ultrastructure and Histology** ..... D. J. Gray and H. V. Amerson

ECOLOGY AND EPIDEMIOLOGY

1500-1505 **Factors Affecting Spore Liberation by *Cladosporium carpophilum*** ..... T. R. Gottwald

1516-1520 **Competition Between Metalaxyl-Resistant and -Sensitive Strains of *Pseudoperonospora cubensis* on Cucumber Plants** ..... Y. Cohen, M. Reuveni, and Y. Samoucha

1548-1553 **Colonization of Wheat Roots by a Fluorescent Pseudomonad Suppressive to Take-All** ..... D. M. Weller

SPECIAL TOPICS

1506-1510 **A Comparison of Three Potyviruses by Direct Hybridization Analysis** ..... B. B. Reddick and O. W. Barnett

SYMPOSIUM ON ESTIMATING YIELD REDUCTION OF MAJOR FOOD CROPS OF THE WORLD

1575 **Introduction** ..... S. P. Pennypacker

1576-1581 **Estimating Disease Severity of Single Plants** ..... S. E. Lindow

1581-1587 **Coupling Pests to Crop Growth Simulators to Predict Yield Reductions** ..... K. J. Boote, J. W. Jones, J. W. Mishoe, and R. D. Berger

1587-1590 **Estimating and Interpreting Disease Intensity and Loss in Commercial Fields** ..... P. S. Teng

1591-1596 **Measuring and Modeling Crop Losses at the Field Level** ..... L. V. Madden

1597-1600 **Global Crop Condition Assessment** ..... J. R. Hickman

No. 12—December

OBITUARY

1601 **Cynthia Westcott, 1898-1983** ..... R. K. Horst

1602 **Thomas Allen Shalla, 1933-1983** ..... W. B. Hewitt, G. A. de Zoeten, and J. H. Andrews

PHYSIOLOGY AND BIOCHEMISTRY

1603-1607 **In Vitro Effects of Glyceollin on *Phytophthora megasperma* f. sp. *glycinea*** ..... P. Stössel

ECOLOGY AND EPIDEMIOLOGY

1628-1631 **Longevity of Conidia of *Sirococcus clavigignenti-juglandacearum* in a Simulated Airborne State** ..... N. Tisserat and J. E. Kuntz

1632-1636 **Decreased Virulence of *Cochliobolus victoriae* Conidia After Incubation on Soils or on Leached Sand** ..... A. B. Filonow, C. O. Akueshi, and J. L. Lockwood

1637-1639 **Selection of Pathogenic Strains of *Verticillium dahliae* and Their Influence on the Useful Life of Cotton Cultivars in the Field** ..... L. J. Ashworth, Jr., N. Galanopoulos, and S. Galanopoulou

1643-1647 **Overwintering and Survival of *Phytophthora cinnamomi* in Fraser Fir and Cover Cropped Nursery Beds in North Carolina** ..... C. M. Kenerley and R. I. Bruck

TECHNIQUES

1625-1628 **Limitations of Tests Used to Detect Soft-Rotting Fluorescent Pseudomonads** ..... I. J. Misaghi and C. R. Donndelinger

ETIOLOGY

1620-1624 **Germination of Oospores of *Pythium ultimum* in the Cotton Rhizosphere** ..... L. F. Johnson and T. Arroyo

1661-1665 ***Rhizoctonia* spp. Associated with Brown Patch of Saint Augustinegrass** ..... B. Hurd and M. P. Grisham

1669-1673 **Purification, Serology, and Vector Relationships of Squash Leaf Curl Virus, a Whitefly-Transmitted Geminivirus** ..... S. Cohen, J. E. Duffus, R. C. Larsen, H. Y. Liu, and R. A. Flock

VECTOR RELATIONS

1608-1614 **Differential Pathogenicity of Corn Stunting Mollicutes to Leafhopper Vectors in *Dalbulus* and *Baldulus* species** ..... L. V. Madden and L. R. Nault

SPECIAL TOPICS

1652-1656 **Factors in Loss of Pathogenicity in *Gaeumannomyces graminis* var. *tritici*** ..... T. Naiki and R. J. Cook

1657-1660 **Relationship Between Production of a Self-Inhibitor and Inability of *Gaeumannomyces graminis* var. *tritici* to Cause Take-all** ..... T. Naiki and R. J. Cook

RESISTANCE

1615-1620 **Comparative Analysis of Cylindrocladium Black Rot Resistance in Peanut: Greenhouse, Microplot, and Field Testing Procedures** ..... J. K. Pataky, M. C. Black, M. K. Beute, and J. C. Wynne

1640-1642 **The Role of the Cuticle in Resistance of Beans to *Rhizoctonia solani*** ..... V. Stockwell and P. Hanchey

1648-1651 **Virulence Differences Between *Fusarium roseum* 'Acuminatum' and *F. roseum* 'Avenaceum' in Red Clover** ..... J. C. Stutz and K. T. Leath

1666-1668 **Genetic Implications of the Susceptibility of Kent Soybean to *Cercospora sojina*** ..... H. R. Boerma and D. V. Phillips

DISEASE CONTROL AND PEST MANAGEMENT

1674-1678 **Effects of Deep Tillage and Roguing of Diseased Plants on Oospore Populations of *Peronosclerospora sorghi* in Soil and on Incidence of Downy Mildew in Grain Sorghum** ..... G. D. Janke, R. G. Pratt, J. D. Arnold, and G. N. Odvody

i **Tables of Contents for 1983**

I **Index for 1983**

Statement of Ownership, Managment, and Circulation